Food Aid: Some Background Statistics and Analysis

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The following statistics and analysis are intended to provide some background for the discussion of future challenges in food aid. Here are seven key points:

1. The quantity of international food aid provided has declined.
2. Just five grains and oilseeds account for more than 85 percent of the volume of food aid.
3. Local purchases of food aid have increased, but are still a modest share of the total.
4. Food aid shipments are small relative to global food consumption and trade.
5. The mix of recipient countries has changed greatly.
6. The United States, the largest donor, has shifted the form of its assistance.
7. Food aid continues to be large enough that it may have modest impacts on global commodity markets, depending on the degree to which it displaces commercial sales.

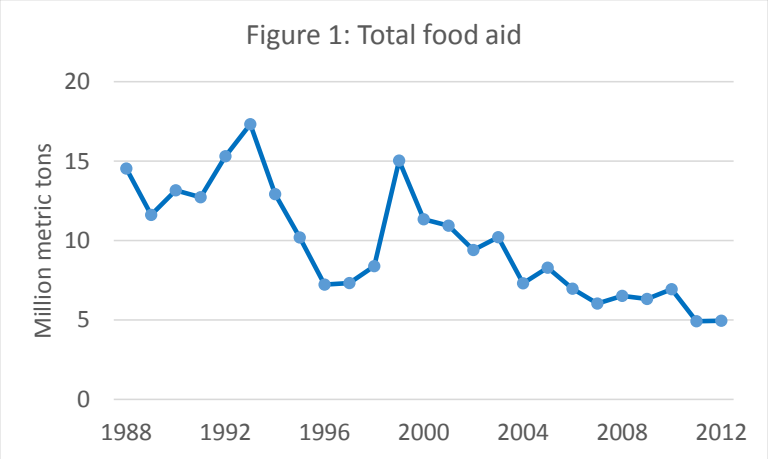
Food aid quantities have declined

Using data from the World Food Programme's Food Aid Information System (http://www.wfp.org/fais/), Table 1 and Figure 1 illustrate how the quantity of food aid provided by official donors has declined.

Table 1. International food aid quantities*

	1988-1992 Average	2008-2012 Average	Change
Total	13.5	5.9	-56%

*Measured in million metric tons, grain equivalent
Source: WFP FAIS, accessed 4 June 2015.



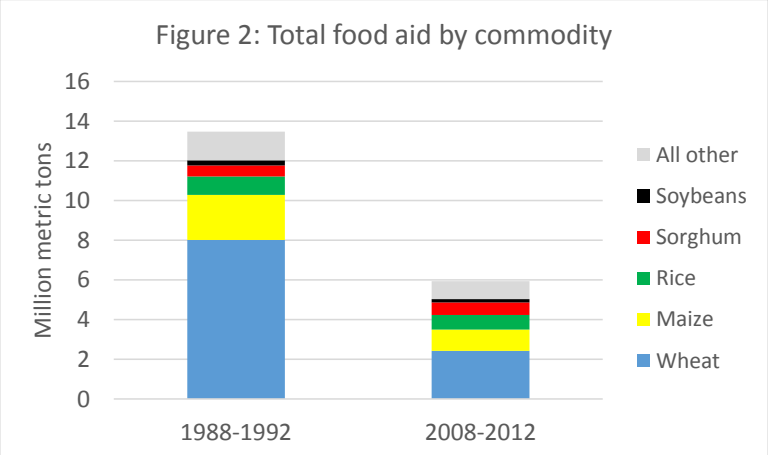
Five crops account for about 85% of food aid volumes

That same WFP data indicates that wheat, maize, rice, sorghum and soybeans accounted for 89 percent of food aid volumes from 1988-1992 and for 85 percent of the total from 2008-2012 (Table 2 and Figure 2). These quantities include the grain equivalents of products derived from these crops. For example, "wheat" includes the various classes of wheat, wheat flour, and 52 percent of wheat-soya mix (to reflect reported technical specifications). Soybean figures may be understated, as the figures below exclude generic "vegetable oil" and some other products that may be derived in part from soybeans. Volumes are, of course, an imperfect indicator, as products differ in their nutritional value and monetary cost. However, it seems likely that even a better indicator would show that a few crops account for the lion's share of international food aid.

Table 2. International food aid by commodity*

	1988-1992 avg.		2008-2012 avg.	
	Quantity	Share	Quantity	Share
Wheat and products	8.01	59.5%	2.43	41.0%
Maize and products	2.28	16.9%	1.07	18.0%
Rice and products	0.92	6.9%	0.73	12.3%
Sorghum and products	0.56	4.2%	0.63	10.7%
Soybeans and products	0.25	1.9%	0.17	2.8%
All other	1.44	10.7%	0.90	15.1%
Total	13.47	100.0%	5.93	100.0%

*Measured in million metric tons, grain equivalent
Source: Author calculations from WFP FAIS data.



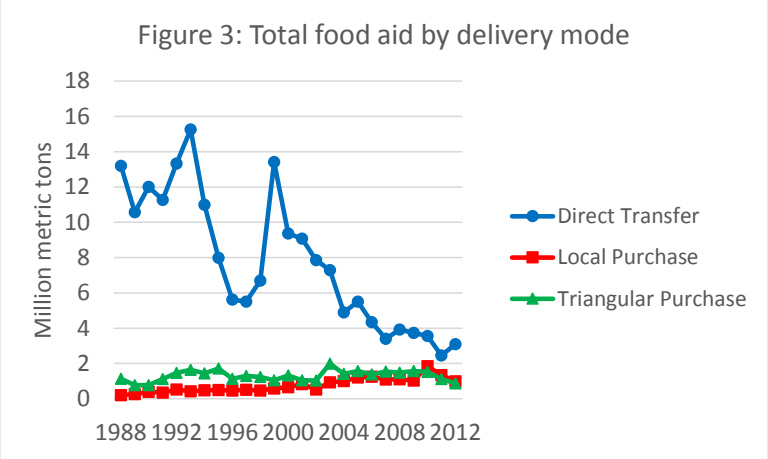
Local purchase of food aid has increased, but remains a modest share of the total

The WFP data confirm that more food aid has been purchased locally in recent years (Table 3 and Figure 3). More than 1 million tons of food aid were purchased in local markets each year, accounting for about one-fifth of the total food aid volume. All of the decline in the volume of food aid has occurred in the direct transfer of aid from donor countries to recipient countries. "Triangular purchases" occur when a donor purchases food in one country to use as food aid in another. Ellen Levinson points out that cash food aid (which does not appear to be included in the WFP figures) has increased sharply in recent years. In personal correspondence, she indicated that the U.S. provided $880 million in cash food aid from the international disaster assistance account in fiscal year 2014.

Table 3. International food aid by delivery mode*

	1988-1992 avg.		2008-2012 avg.	
	Quantity	Share	Quantity	Share
Direct transfer	12.07	89.6%	3.36	56.6%
Local purchase	0.35	2.6%	1.26	21.3%
Triangular purchase	1.05	7.8%	1.31	22.1%
Total	13.47	100.0%	5.93	100.0%

*Measured in million metric tons, grain equivalent
Source: Author calculations from WFP FAIS data.



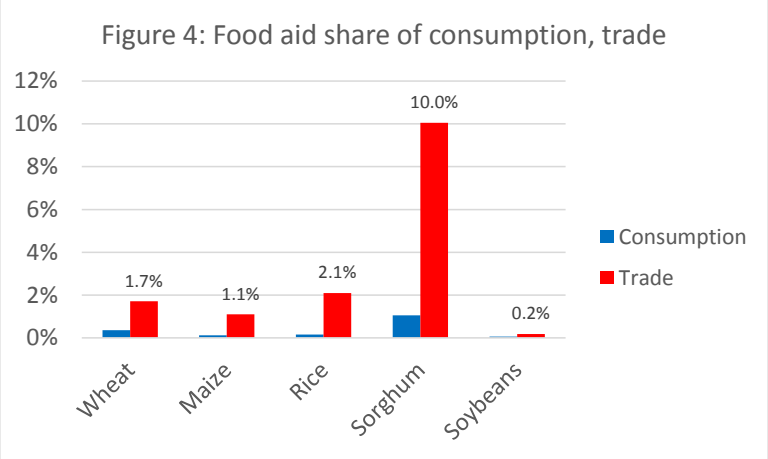
Food aid is small relative to global consumption and trade

For these five major crops, food aid accounts for a very small share of world consumption and trade. Using the WFP data on food aid cited above and USDA PSD Online data for global commodity data, food aid accounted for less than 0.5 percent of world consumption for four of the five crops between 2008 and 2012 (Table 4 and Figure 4). Food aid accounted for less than 1 percent of world soybean trade, about 1 percent of global corn trade, and about 2 percent of world trade in wheat and rice. Only in the case of sorghum was food aid proportionally much more important, accounting for about 1 percent of global consumption and 10 percent of global trade.

Table 4. International food aid and world consumption and trade, 2008-2012 avg.*

	Food aid	World consumption	Food aid share	World trade	Food aid share
Wheat	2.43	663.23	0.4%	141.87	1.7%
Maize	1.07	838.26	0.1%	97.24	1.1%
Rice	0.73	447.34	0.2%	34.92	2.1%
Sorghum	0.63	59.86	1.1%	6.32	10.0%
Soybeans	0.17	246.33	0.1%	90.61	0.2%

*Measured in million metric tons, grain equivalent
Source: Author calculations from WFP FAIS and USDA PSD Online data.



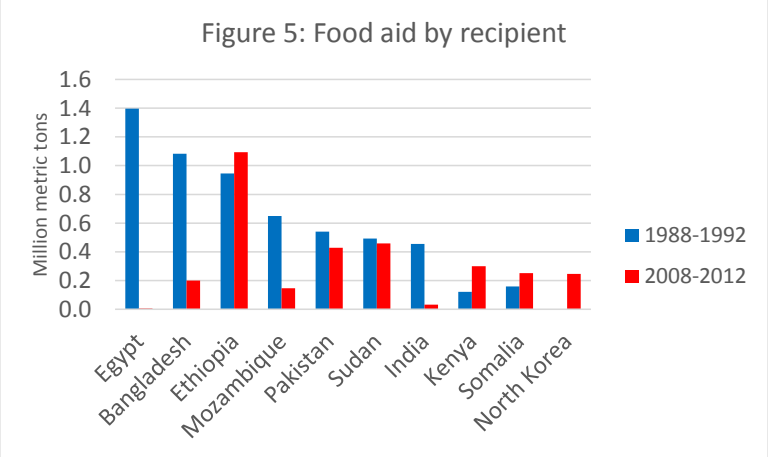
The mix of recipient countries has changed

The distribution of food aid across countries changes over time. Again based on WFP data, the top recipients of food aid between 1988 and 1992 were Egypt and Bangladesh, which received a combined total of 2.5 million metric tons of aid per year (Table 5 and Figure 5). Twenty years later, those two countries ranked 74th and 7th, respectively, and combined total shipments were just 0.21 million metric tons per year. For the top three recipients in the 2008-2012 period (Ethiopia, the Sudan and Pakistan), food aid shipments were comparable to what they had been twenty years previously; they moved up in the rankings because of sharp reductions in other countries. Note that the ten recipient countries listed accounted for more than half of total food aid shipments between 2008 and 2012.

Table 5. International food aid by recipient*

	1988-1992 avg.		2008-2012 avg.	
	Quantity	Rank	Quantity	Rank
Egypt	1.40	1	0.01	74
Bangladesh	1.08	2	0.20	7
Ethiopia	0.95	3	1.09	1
Mozambique	0.65	4	0.15	13
Pakistan	0.54	5	0.43	3
Sudan	0.49	6	0.46	2
India	0.45	7	0.03	36
Kenya	0.12	29	0.30	4
Somalia	0.16	24	0.25	5
North Korea	0.00	--	0.25	6
10-country subtotal	5.84		3.16	
All other	7.63		2.77	
Total	13.47		5.93	

*Measured in million metric tons, grain equivalent
Source: Author calculations from WFP FAIS data.



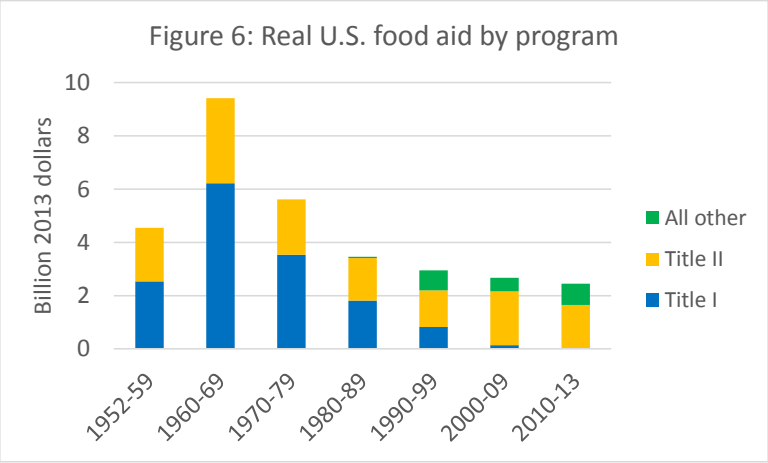
The United States has shifted the form of its assistance

The United States is the largest provider of food aid, accounting for half of the global total between 2008 and 2012, according to the WFP. Since PL 480 was established in the 1950s, the United States has made major changes in the way in which it provides food aid. A recent Congressional Research Service report by Randy Schnepf (https://fas.org/sgp/crs/misc/R41072.pdf) demonstrates how real U.S. spending on food aid has declined sharply since the 1960s (Table 6 and Figure 6). PL 480 Title I spending on food aid provided by means of long-term loans has been phased out, but there has been little trend in real spending on Title II direct aid since the 1980s.

Table 6. U.S. international food aid, real dollars*

	PL 480 Title I	PL 480 Title II	All other**	Total
1952-59	2,539	2,006	0	4,545
1960-69	6,215	3,202	0	9,417
1970-79	3,535	2,082	0	5,617
1980-89	1,809	1,599	47	3,456
1990-99	826	1,370	757	2,953
2000-09	141	2,023	505	2,668
2010-13	11	1,643	795	2,448

*Million 2013 dollars, calculated using a GDP deflator
**Includes McGovern-Dole, Sec. 416(b), CCC-funded Food for Progress, Title III and Title V.
Source: Schnepf CRS report, April 2015, page 6.



Food aid, though diminished, can still have modest global market impacts

As will be discussed by other panelists, food aid has many complex impacts on food markets in recipient countries. The magnitude and even the direction of those impacts can depend on the form in which food aid is provided, local government policies, and the specific market circumstance.

Although food aid quantities are now very small relative to global production and consumption, they may still have a modest effect on global markets. A simple, stylized model of markets for major crops suggests that removing all food aid in 2015 could result in a slight reduction in global grain production, a slight increase in commercial (non-food aid) uses of grain, and a small reduction in the prices at which wheat, corn, rice, sorghum and soybeans trade in international markets (Figure 7 and Table 7).

World maize and soybean prices fall by about 1 percent, wheat and rice by about 2 percent, and sorghum by about 3 percent in the scenario where food aid is eliminated. Many countries have policies that insulate domestic markets from changes in world prices, so local market changes would be smaller in many countries. In current food aid recipient countries, price impacts could be either negative or positive depending on the nature of their markets and how aid is provided.

One of many important assumptions underlying these estimates is that 50% of food aid displaces commercial sales, even before considering any impacts on global markets. If the actual displacement is greater, the world market effects would be smaller; if there were no displacement before considering world market effects, the estimated price and production impacts would be roughly twice as large as indicated in Table 6. Another important assumption is that baseline food aid would continue at the average levels of 2008-2012. If baseline food aid were smaller (greater), the estimated market impacts would likewise be smaller (greater). The baseline for this work was developed in May 2015, and it updates the 10-year March 2015 baseline released by the Food and Agricultural Policy Research Institute at the University of Missouri (http://www.fapri.missouri.edu/publication/2015-u-s-baseline-briefing-book/?preview=true).

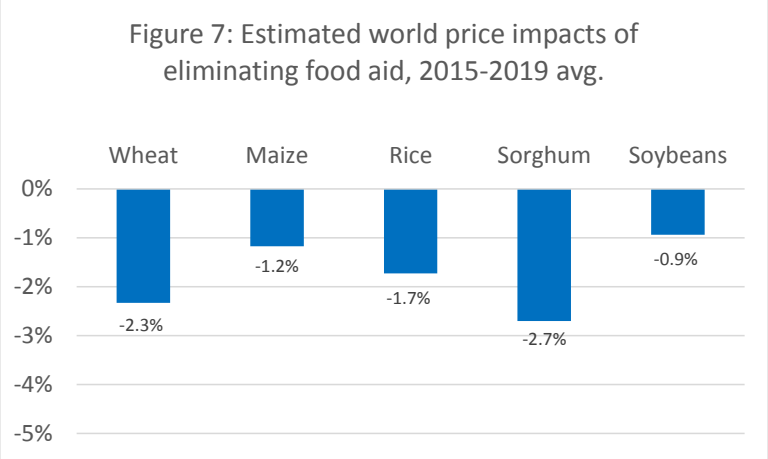


Table 7. Estimated global market impacts of eliminating food aid, 2015-2019 average

	Wheat	Maize	Rice	Sorghum	Soybeans	5 crops
Food aid			million metric tons			
Baseline	2.43	1.07	0.73	0.63	0.17	5.03
Scenario	0.00	0.00	0.00	0.00	0.00	0.00
Absolute change	-2.43	-1.07	-0.73	-0.63	-0.17	-5.03
Percentage change	-100%	-100%	-100%	-100%	-100%	-100%
World production						
Baseline	739.46	1,028.18	497.95	67.50	320.54	2,653.63
Scenario	738.62	1,027.91	497.74	67.37	320.55	2,652.19
Absolute change	-0.83	-0.27	-0.22	-0.13	0.01	-1.44
Percentage change	-0.11%	-0.03%	-0.04%	-0.19%	0.00%	-0.05%
World other use and stock change						
Baseline	737.03	1,027.11	497.22	66.86	320.37	2,648.59
Scenario	738.62	1,027.91	497.74	67.37	320.55	2,652.19
Absolute change	1.60	0.80	0.52	0.50	0.18	3.59
Percentage change	0.22%	0.08%	0.10%	0.75%	0.05%	0.14%
World indicator price			dollars per metric ton			
Baseline	236.45	189.08	447.62	189.98	374.50	
Scenario	230.95	186.86	439.89	184.85	370.99	
Absolute change	-5.50	-2.22	-7.74	-5.13	-3.51	
Percentage change	-2.33%	-1.17%	-1.73%	-2.70%	-0.94%	

Notes: Estimates are 2015-2019 average impacts of eliminating international food aid in 2015. Estimates are by the author using a stylized model of markets for these crops, and assume 50% of food aid displaces commercial sales, even before considering global market impacts. World indicator prices are U.S. FOB prices for wheat, maize and sorghum, Illinois prices for soybeans, and Thai prices for milled rice.

References and further reading

Food and Agricultural Policy Research Institute at the University of Missouri (FAPRI-MU). 2015 U.S. Baseline Briefing Book. FAPRI-MU Report #01-15. Columbia, Missouri, March 2015. This and other FAPRI reports are available at http://www.fapri.missouri.edu/.

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